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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,746	11/28/2001	Hideki Yoshinaga	35.C15980	8349

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EXAMINER	
SHAPIRO, LEONID	
ART UNIT	**PAPER NUMBER**
2673	7

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/994,746	YOSHINAGA ET AL.	
	Examiner	Art Unit	
	Leonid Shapiro	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 05 February 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Drawings

1. Figures 11-15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA (Admitted Prior Art) in view of Kunzman (US Patent No. 6,392,717).

As to claim 1, APA teaches a color liquid crystal display device comprising a liquid crystal display part, and light sources for irradiating the liquid crystal display part with lights of three primary colors, respectively, the device performing display of one frame by respective fields of three primary colors and a white field displayed with a mixture of three primary colors in the liquid crystal part (See Figs. 13, 16, items 20,22,Lc, in description See pages 6-10).

APA does not show wherein the device further comprises: means for comparing brightness levels of inputted three primary color signals for one frame with each other to define the maximum value thereof as a brightness level of a white signal for one frame; means for setting proportion of the brightness level of the white signal to be displayed in the white field; a light source driving part for driving the light sources of the three primary colors so that the white field emits light depending on the brightness level of the white signal and the proportion.

Kunzman teaches means for comparing brightness levels of inputted three primary color signals for one frame with each other to define the maximum value thereof as a brightness level of a white signal for one frame (See Figs. 2-3, items Y-DETECT, 32, 36,46, in description See Col. 4, Lines 1-45); means for setting proportion of the brightness level of the white signal to be displayed in the white field (See Figs. 2-3, items OFFSET, 38, in description See Col. 4, Lines 46-52); a light source driving part for driving the light sources of the three primary colors (See Col. 3, Lines 43-48) so that the white field emits light depending on the brightness level of the white signal and the proportion (See Figs. 2-3, items Y_LEVEL,38,28, in description See Col. 4, Lines46-52 and Col. 6, Lines 9-20).

Since Kunzman mentioned that the system could have three colored light sources it would have been obvious to one ordinary skill in the art at the time of the invention to implement

means for comparing brightness levels, means for setting proportion and light driving part as shown by Kunzman for color wheel in APA apparatus for three colored light sources in order to produce better image (See Col. 2, Line 39 in the Kunzman reference).

As to claim 2, APA teaches a color liquid crystal display device comprising a liquid crystal display part, and light sources for irradiating the liquid crystal display part with lights of three primary colors, respectively, the device performing display of one frame by respective fields of three primary colors and a white field displayed with a mixture of three primary colors in the liquid crystal part (See Figs. 13, 16, items 20,22,Lc, in description See pages 6-10).

APA does not show wherein when brightness levels of inputted three primary color signals for one frame with each other to define the maximum value thereof as a brightness level of a white signal for one frame; the light source driving part for driving the light sources of the three primary colors is driven depending on the brightness level of the white signal, and a proportion of the brightness level of the white signal to be displayed with the white field..

Kunzman teaches means for comparing brightness levels of inputted three primary color signals for one frame with each other to define the maximum value thereof as a brightness level of a white signal for one frame (See Figs. 2-3, items Y-DETECT, 32, 36,46, in description See Col. 4, Lines 1-45); means for setting proportion of the brightness level of the white signal to be displayed in the white field (See Figs. 2-3, items OFFSET, 38, in description See Col. 4, Lines 46-52); a light source driving part for driving the light sources of the three primary colors (See Col. 3, Lines 43-48) so that the white field emits light depending on the brightness level of the white signal and the proportion (See Figs. 2-3, items Y_LEVEL,38,28, in description See Col. 4, Lines46-52 and Col. 6, Lines 9-20).

Since Kunzman mentioned that the system could have three colored light sources it would have been obvious to one ordinary skill in the art at the time of the invention to implement means for comparing brightness levels, means for setting proportion and light driving part as shown by Kunzman for color wheel in APA apparatus for three colored light sources in order to produce better image (See Col. 2, Line 39 in the Kunzman reference).

As to claim 3, Kunzman teaches automatically to set proportion depending on changes of displayed information (See Figs. 2-3, items 32,34,38, in description See Col. 2, Lines 18-20, Col. 3, Lines 43-45 and Col. 4, Lines 1-5).

4. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA and Kunzman as aforementioned in claim 1 in view of Yamazaki et al. (US Patent No. 6,597,348 B1).

As to claim 4, APA and Kunzman do not show proportion is set by a manual switch.

Yamazaki et al. teaches information-processing with a field sequential display, back light with three light sources and touch panel (see Fig. 2, items 101-104, in description See Col. 2, Lines 35-51).

It would have been obvious to one ordinary skill in the art at the time of the invention to use touch panel for setting proportion manually in APA and Kunzman apparatus for three colored light sources in order to produce better image (See Col. 2, Line 39 in the Kunzman reference).

As to claim 5, Yamazaki et al. teaches with proportion equal to 0% one frame is divided into three fields to perform display only by three-color fields (See Fig. 3, items R,G,B, in description See Col. 4, Lines 64-68).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

The Kaneko (US Patent No. 6,188,379 B1) reference discloses color display system and method of driving the same.

The Chen (US Patent No. 6,421,037 B1) reference discloses silicon-chip-display cell structure.

The Noguchi et al. (US Patent No. 6,243,067 B1) reference discloses liquid crystal projector.

The Yoshihara et al. (US Patent No. 6,115,016) reference discloses LCD apparatus and displaying control method.

The Kennedy (US Patent No. 5,369,432) reference discloses color calibration for LCD display.

Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

ls

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600